[Federal Register: December 1, 2003 (Volume 68, Number 230)]
[Rules and Regulations]
[Page 67027-67030]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr01de03-7]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NM-249-AD; Amendment 39-13377; AD 2003-24-08]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-100, -200, -200C, -300, -400, and -500 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to all Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, that currently requires repetitive inspections to find cracks, fractures, or corrosion of each carriage spindle of the left and right outboard mid-flaps; and corrective action, if necessary. That AD also provides for an optional action of overhaul or replacement of the carriage spindles. This amendment requires repetitive gap checks of the inboard and outboard carriage of the outboard mid-flaps to detect fractured carriage spindles; and corrective actions, if necessary. This amendment also reduces the interval for the existing inspections and revises the overhaul procedures. The actions specified in this AD are intended to detect and correct cracked, corroded, or fractured carriage spindles and to prevent severe flap asymmetry, which could result in reduced control or loss of controllability of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective December 4, 2003.

The incorporation by reference of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, as listed in the regulations, is approved by the Director of the Federal Register as of December 4, 2003.

The incorporation by reference of Boeing Alert Service Bulletin 737-57A1277, dated July 25, 2002, as listed in the regulations, was approved previously by the Director of the Federal Register as of November 15, 2002 (67 FR 66316, October 31, 2002).

Comments for inclusion in the Rules Docket must be received on or before January 30, 2004.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2003-NM-249-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays. Comments may be

submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via fax or the Internet must contain "Docket No. 2003-NM-249-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 or 2000 or ASCII text.

The service information referenced in this AD may be obtained from Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Robert Hardwick, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6457; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION: On October 22, 2002, the FAA issued AD 2002-22-05, amendment 39-12929 (67 FR 66316, October 31, 2002), applicable to all Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, to require repetitive inspections to find cracks, fractures, or corrosion of each carriage spindle of the left and right outboard mid-flaps; and corrective action, if necessary. That AD also provides for an optional action of overhaul or replacement of the carriage spindles, which would extend the repetitive inspection interval. That action was prompted by reports indicating fractures of the carriage spindles of the outboard mid-flaps. The actions required by that AD are intended to prevent severe flap asymmetry due to fractures of the carriage spindles on an outboard mid-flap, which could result in reduced control or loss of controllability of the airplane.

Actions Since Issuance of Previous Rule

Since the issuance of that AD, the FAA has received a report indicating that the inboard and outboard carriage spindles (number 7 and 8 carriage spindles) fractured on the right outboard flap on a Boeing Model 737-200 series airplane during approach to landing. The flight crew reported a loud bang approximately 500 feet above ground level (AGL) followed by the airplane rolling off hard to the right. Significant aileron and rudder inputs were required to maintain level flight. The fractures resulted from stress-corrosion cracking.

Investigation revealed that the fractured carriage spindles had been ultrasonically inspected per AD 2002-22-05 three weeks before the reported incident. Corrosion on the fractured face of the inboard carriage spindle indicated that it had failed on some flight previous to the failure of the outboard carriage spindle, which had almost no corrosion on the fractured surface. The outboard carriage spindle failed when the flaps were deployed to detent 40 and at an altitude of 500 feet AGL.

If both the inboard and outboard carriage spindles fracture in the critical section on an outboard flap when the mid-flaps are deployed beyond detent 15, it could result in loss of controllability of the airplane.

The carriage spindles on all Model 737-100, -200C, -300, -400, and -500 series airplanes are similar to those on the affected Model 737-200 series airplanes. Therefore, all of these models may be subject to the same unsafe condition.

Other Relevant Rulemaking

The FAA has previously issued a supplemental notice of proposed rulemaking (NPRM) Docket 2002-NM-219-AD (68 FR 62409, November 4, 2003), applicable to all Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. That action would supersede AD 2002-22-05 to require repetitive inspections to find cracks, fractures, or corrosion of each carriage spindle of the left and right outboard mid-flaps; and corrective action, if necessary. That action also would mandate the

previously optional overhaul or replacement of the carriage spindles, which would end the repetitive inspections required by the existing AD. The comment period for that action closes on December 1, 2003.

This AD affects the proposed requirements of that supplemental NPRM. We plan to address any effects of this AD on those proposed requirements in future rulemaking.

Explanation of Relevant Service Information

The FAA has reviewed and approved Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, which describes the following procedures:

- Performing repetitive nondestructive test (NDT) inspections and general visual inspections for each carriage spindle of the left and right outboard mid-flaps to detect cracks, corrosion, or severed carriage spindles; and applicable corrective actions, if necessary. The corrective actions include removing the carriage spindle and installing a new or serviceable carriage spindle.
- Performing repetitive gap checks of the inboard and outboard carriage of the left and right outboard mid-flaps to determine if there is a positive indication of a severed carriage spindle; and corrective actions, if necessary. The corrective actions include removing the carriage spindle and installing a new or serviceable carriage spindle.

The service bulletin also describes procedures for determining whether carriage spindles that are removed can be overhauled, and if so, references appropriate overhaul procedures.

This service bulletin recommends compliance times at the following approximate intervals, depending on the flight cycles or years in service of the carriage spindle:

1. For the gap check, ranging from daily to 15 days; and
2. For the NDT and general visual inspections, ranging from 6 days to 180 days.

Explanation of Requirements of Rule

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of this same type design, this AD supersedes AD 2002-22-05 to continue to require repetitive inspections to find cracks, fractures, or corrosion of each carriage spindle of the left and right outboard mid-flaps; and corrective action, if necessary. This AD also requires accomplishment of the actions specified in the Boeing Alert Service Bulletin 737-57A1277 described previously, except as described below.

Differences Between This AD and Referenced Service Bulletin

Operators should note that, for the optional overhaul procedures specified in the service bulletin, this AD imposes additional requirements to prevent improper nickel plating and hydrogen embrittlement. Boeing will add these procedures in the next revision of the overhaul manual.

Operators should also note that, although the Accomplishment Instructions of the Boeing Alert Service Bulletin 737-57A1277 describe procedures for reporting inspection findings to the manufacturer, this AD does not require that action. We do not need this information from operators.

Interim Action

We consider this AD interim action. We are currently considering requiring overhaul of the carriage spindles of the left and right outboard mid-flaps, which will allow for deferral of the repetitive inspections and gap checks required by this AD for some period of time. However, the planned compliance time for the overhaul would allow enough time to provide notice and opportunity for prior public comment on the merits of the overhaul.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2003-NM-249-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39-12929 (67 FR 66316, October 31, 2002), and by adding a new airworthiness directive (AD), amendment 39-13377, to read as follows:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

2003-24-08 Boeing: Amendment 39-13377. Docket 2003-NM-249-AD. Supersedes AD 2002-22-05, Amendment 39-12929.

Applicability: All Model 737-100, -200, -200C, -300, -400, and -500 series airplanes; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To detect and correct cracked, corroded, or fractured carriage spindles and to prevent severe flap asymmetry, which could result in reduced control or loss of controllability of the airplane, accomplish the following:

Requirements of AD 2002-22-05, Amendment 39-12929

Repetitive Inspections

(a) Do general visual and nondestructive test (NDT) inspections of each carriage spindle (two on each flap) of the left and right outboard mid-flaps to find cracks, fractures, or corrosion at the later of the times specified in paragraphs (a)(1) and (a)(2) of this AD, as applicable, per the Work Instructions of Boeing Alert Service Bulletin 737-57A1277, dated July 25, 2002. Repeat the inspection at least every 180 days until paragraph (d) or (f) of this AD is done.

(1) Before the accumulation of 12,000 total flight cycles or 8 years in-service on new or overhauled carriage spindles, whichever is first.

(2) Within 90 days after November 15, 2002 (the effective date of AD 2002-22-05).

Note 1: For the purposes of this AD, a general visual inspection is defined as: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made from within touching distance unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

Corrective Action

(b) If any crack, fracture, or corrosion is found during any inspection required by paragraph (a) of this AD: Before further flight, do the applicable actions for that spindle as specified in paragraph (b)(1) or (b)(2) of this AD, per the Work Instructions of Boeing Alert Service Bulletin 737-57A1277,

dated July 25, 2002. Then repeat the inspections required by paragraph (a) of this AD every 12,000 flight cycles or 8 years, whichever is first; on the overhauled or replaced spindle only until paragraph (d) or (f) of this AD is done.

(1) If any corrosion is found in the carriage spindle, overhaul the spindle.

(2) If any crack or fracture is found in the carriage spindle, replace with a new or overhauled carriage spindle.

New Actions Required by This AD

Compliance Times for New Actions

(c) The tables in paragraph 1.E., "Compliance" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, specify the compliance times for this AD. For carriage spindles that have accumulated the number of flight cycles or years in service specified in the "Threshold" column of the tables, accomplish the gap check and NDT and general visual inspections specified in paragraphs (d) and (f) of this AD within the corresponding interval after the effective date of this AD, as specified in the "Interval" column. Repeat the gap check and NDT and general visual inspections at the same intervals, except:

(1) The gap check does not have to be done at the same time as an NDT inspection; after doing an NDT inspection, the interval for doing the next gap check can be measured from the NDT inspection; and

(2) As carriage spindles gain flight cycles or years in service and move from one category in the "Threshold" column to another, they are subject to the repetitive inspection intervals corresponding to the new threshold category.

Work Package 2: Gap Check

(d) Perform a gap check of the inboard and outboard carriage of the left and right outboard mid-flaps to determine if there is a positive indication of a severed carriage spindle, in accordance with Work Package 2 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003. Accomplishment of the gap check terminates the repetitive inspection requirements of paragraphs (a) and (b) of this AD.

Work Package 2: Corrective Actions

(e) If there is a positive indication of a severed carriage spindle during the gap check required by paragraph (d) of this AD, before further flight, remove the carriage spindle and install a new or serviceable carriage spindle in accordance with Work Package 2 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003. If, as a result of the detailed inspection described in paragraph 4.b. of Work Package 2 of the service bulletin, a carriage spindle is found not to be severed and no corrosion or crack is present, it can be reinstalled on the mid-flap per the service bulletin.

Work Package 1: Inspections

(f) Perform a NDT inspection and general visual inspection for each carriage spindle of the left and right outboard mid-flaps to detect cracks, corrosion, or severed carriage spindles, in accordance with Work Package 1 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003. Accomplishment of these inspections terminates the repetitive inspection requirements of paragraphs (a) and (b) of this AD.

Work Package 1: Corrective Actions

(g) If any corroded, cracked, or severed carriage spindle is found during any inspection required by paragraph (f) of this AD, before further flight, remove the carriage spindle and install a new or serviceable carriage spindle in accordance with Work Package 1 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003.

Parts Installation

(h) Except as provided in paragraph (e) of this AD: As of the effective date of this AD, no person may install on any airplane a carriage spindle that has been removed as required by paragraph (e) or (g) of this AD, unless it has been overhauled per paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003; except that, to be eligible for installation under this paragraph, the carriage spindle must have been overhauled per the requirements of paragraph (i) of this AD.

(i) During accomplishment of any overhaul specified in paragraph (h) of this AD, use the procedures specified in paragraphs (i)(1) and (i)(2) of this AD during application of the nickel plating to the carriage spindle in addition to those specified in Boeing 737 Standard Overhaul Practices Manual, Chapter 20-42-09.

(1) The maximum deposition rate of the nickel plating in any one plating/baking cycle must not exceed 0.002-inches-per-hour.

(2) Begin the hydrogen embrittlement relief bake within 10 hours after application of the plating, or less than 24 hours after the current was first applied to the part, whichever is first.

Exception to Reporting Recommendations in Service Bulletins

(j) Although the service bulletins recommend that operators report inspection findings to the manufacturer, this AD does not contain such a reporting requirement.

Alternative Methods of Compliance

(k)(1) In accordance with 14 CFR 39.19, the Manager, Seattle Aircraft Certification Office (ACO), FAA, is authorized to approve alternative methods of compliance (AMOCs) for this AD.

(2) Alternative methods of compliance, approved previously per AD 2002-22-05, amendment 39-12929, are approved as alternative methods of compliance for paragraphs (a) and (b) of this AD.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by a Boeing Company Designated Engineering Representative who has been authorized by the Manager, Seattle ACO, to make such findings.

Incorporation by Reference

(l) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 737-57A1277, dated July 25, 2002; and Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003.

(1) The incorporation by reference of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, is approved by the Director of the Federal Register, in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The incorporation by reference of Boeing Alert Service Bulletin 737-57A1277, dated July 25, 2002, was approved previously by the Director of the Federal Register as of November 15, 2002 (67 FR 66316, October 31, 2002).

(3) Copies may be obtained from Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(m) This amendment becomes effective on December 4, 2003.

Issued in Renton, Washington, on November 24, 2003.
Ali Bahrami,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 03-29784 Filed 11-25-03; 11:56 am]
BILLING CODE 4910-13-P